

1. The examiner objected to the previous listing of references as being part of the specification. In this second amendment the list of patents cited bears a different header (“patent documents cited” **page 42**) than does the specification which follows it (“clean amended specification” **page 43**).
2. The examiner objected under 35 USC 132 that the first amendment of this patent contained additional figures, and description of those figures, which were not present in the original application. These were supplied in order to satisfy the comment on the original submission that some claims were not illustrated. Evidently, from the objections to the first amendment, the applicant should have read this to mean that such claims could not ever be supported since this material could not be further illustrated even if the material was mentioned in the original application and was not in that sense “new”. With the removal of this offending material, and the elimination of many claims they supported, parts of this second amendment more closely resemble the initial application than the first amendment. Therefore, for purposes of describing the changes in this second amendment (below) marked up versions comparing it to both the initial application and first amended version are presented.
3. Claim 1 from the initial application was improperly formatted and so was reformatted and separated into 20 claims in the first amendment. The examiner noted that the applicant erroneously numbered these 1-20 when they should have been numbered 2-21 in accordance with 37 CFR 1.126. The latter numbering scheme is retained here.

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Of these, only claims 2, 3, 4 and 11 are retained with the others being canceled. New claims entered in this amendment are numbered from 22.

4. The examiner rejected claims under 35 USC 112 because the claims referred to changes in the specification that were also rejected under 35 USC 132. The offending material has been removed both in the specification and the claims **page 57**, most of which have been canceled, three amended, and the rest are new.
5. The examiner requested clean copies of the rewritten claims (2,3,4, and 11) and these are provided on **page 61**. The corresponding marked up copies relative to the previous amendment begin on **page 57**. The new claims are presented once only in the section which begins on **page 57**.
6. The amended and new claims, presented in the claim listing which begins on **page 57**, were derived from the claims and text in the initial application only – no part is now based on new material.
7. As requested by the examiner, a discussion of U.S. Pat no 3,629,600 begins on **page 26, line 4**.
8. As requested by the examiner, a discussion of U.S. Pat no 5,325,340 begins on **page 26, line 14**.
9. As requested by the examiner, a discussion of U.S. Pat nos 5,897,457, 6,066,105, and 6,278,378 begins on **page 28, line 14**.

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- 10.** As requested by the examiner, a discussion of U.S. Pat no 5,812,239 begins on **page 29, line 1**. This discussion is amplified from that of the first amendment and further illustrates the differences between Eger's device and that of the present application.
- 11.** If after reviewing the amended application and these remarks the examiner finds that the application contains patentable material but the claims are still not technically adequate the applicant respectfully requests that the examiner write acceptable claims pursuant to MPEP 707.07(j).
- 12.** The examiner rejected under 35 USC 103 various claims as being unpatentable over Eger. While dealt with in the current amendment further comment is presented in the following remarks.
- 13.** The examiner rejected claim 2 under 35 USC 103 and cited that in his abstract "Eger discloses a device for state changes into athletic activities." The applicant respectfully disagrees and requests reconsideration of the amended claim 2. The concept of introducing state changes into the athletic environment as defined in the present application is entirely absent from Eger's patent. Eger's device does not tell an athlete how to interact with an athletic environment (balls, soccer cones, other players, etc.), but rather how to interact with the device itself. The present device is intended to introduce variation into existing athletic endeavors such as soccer, baseball, or basketball. This is explicitly disclosed in the present application in numerous locations (**page 24 last paragraph, page 25 first paragraph, page 25 line 19, page 31 first paragraph, page 31 line 20, page 32 first paragraph, page 35 line 17,**

**abstract page 41**). This concept is not disclosed anywhere in Eger. Had Eger intended his device to have a display “said display presenting the device state in a form that the athlete may interpret as a change in the athletic environment” (the present claim 2, **page 57**) he would surely have given at least one example (as the present application does for soccer, basketball, and baseball.) In fact, Eger presented no examples functionally equivalent to “introducing state changes into athletic environments” (the terminology of the present application) because his patent did not encompass this material.

14. Another argument against the rejection of claim 2 is that the intended field of use of Eger’s device is not the same as that of the present application. Eger’s is an eye training device which in some embodiments is extended to measure hand-eye coordination. Unlike the present device it does not encompass what is generally considered to be athletic training. Eger’s requirement that the athlete maintain her head in a fixed position is incompatible with virtually all types of true athletic training and competition which typically require considerable motion, or more specifically, displacement, within the athletic environment (field, court, diamond, etc.). The applicant could not recall a single sport played with the head in a fixed position in the athletic environment of that sport, but there may be one, hence the qualifier “virtually” in the preceding sentence.

15. Another argument for the reinstatement of claim 2: “introducing state changes into athletic environments” (emphasis intended) is not an obvious use for Eger’s device.

When used according to Eger's own instructions: "a subject stands in front of the sheet" (abstract), ie, is immobile with respect to the signaling device, yet motion is typically the desired action elicited in the athlete(s) by the state change in the athletic environment. If an athlete were to apply the concepts of the present patent retrospectively to the Eger device and "run to the right" in response to a hypothetical signal from that display, then as a consequence that athlete would subsequently be positioned contrary to the teaching of Eger. The lights of the Eger display would no longer be correctly positioned in the athlete's visual field, and in many cases, would not be visible at all. Similarly, it is not obvious how an athlete might utilize Eger's device in conformance with the methods described by Eger while also responding to state changes in the athletic environment (as described in the present application).

Looking away from Eger's device (to a ball, another player, etc.) would be contrary to the teaching of Eger and to not do so would isolate the athlete from the athletic environment, contrary to the teaching of the current application.

16. Further argument for the reinstatement of claim 2: Eger's device is poorly designed for the task of introducing state changes into athletic events so one skilled in the arts would not consider that an obvious use for the device. In Eger's Figure 1 16 lamps are shown and since Eger teaches that these are lit one at a time (in various orders) they could communicate 16 states. However, it would be extremely difficult for an athlete to remember which athletic action corresponded to each of these 16 lamps. To avoid confusion graphic signaling devices rarely convey more than a handful of

distinct messages, hence the use of only three lights at traffic signals and four states in the present device. One skilled in the arts would recognize that the athlete would have some difficulty determining exactly which lamp is lit (“is that 9, or 10?”). The athletes would likely have to count up or down from easily recognized lamps (ie, the top, bottom, and side lamps) and this would greatly delay their reaction. Had signaling state changes been an intended use of the device some method for labeling the singly lit lamps with the desired action would have been provided. However, Eger had a very good reason for not doing so. In its intended usage his device placed those lamps in the subject’s peripheral vision. It is exceedingly difficult to read symbols except with foveal vision – hence the great difficulties in reading encountered by those suffering from macular degeneration. Eger, being skilled in the arts, would have known that either static or alphanumeric display text in those locations would be essentially impossible to read with the subject viewing those locations peripherally. (Similarly, the use of sound as a signal, as noted in the current application, is clearly outside the realm of Eger’s work, which was clearly restricted to “the enhancement of vision and/or eye-hand coordination”.)

17. Another argument against the rejection of claim 2 is the large number of differences between the Eger device and that of the present application. Each device is well suited for its intended purpose, but those purposes are so different that neither device would be appropriate for the other’s function. Eger’s device, in its various embodiments, includes the following features: a central hole (often fitted with optics),

lights distributed on a plane perpendicular to the playing field oriented so that the normal line through the center of the circle of lights intersects the subject's head; and impact or touch sensors. None of these features are provided in the present device as they are either not required for its intended use or would be deleterious to its operation. A hole through the cone, from a player's normal viewing angle, would provide at most a view of the grass on which the cone sits and would eliminate internal space that could otherwise house the mechanism. The sets of lights in the cone are arranged in a plane parallel to the ground in order to provide omnidirectional viewing. This orientation, a 90 degree rotation from Eger's device, would require a subject following the teaching of Eger to stand over the device and look straight down into it – an awkward and uncomfortable position to maintain for any length of time. The cone does not measure anything and so does not utilize sensors. Eger's screen may be folded into a smaller size for transport but in its active form it is an extended sheet. The case of the present device is compact not so much for portability (although that is a plus) but so that it is minimally intrusive in the athletic environment into which it is introduced. Conversely, Eger's device would likely constitute a significant obstruction in most games or training regimes.

18. The examiner rejected claim 3 under 35 USC 103 because Eger's device also contains a microprocessor. One skilled in the arts understands that countless devices including Eger's and that of the present application utilize microprocessors. However, the applicant respectfully submits that claim 3 (as currently amended) is valid because it

modifies the amended claim 2 which, as is argued above, describes a device which is neither Eger's device nor an obvious extension of it.

19. The examiner rejected claim 4 under 35 USC 103 because Eger's device also utilizes LEDs and discloses that said LEDs may be of different colors. However, the applicant respectfully submits that claim 4 (as currently amended) is valid because it modifies the amended claim 2 which, as is argued above, describes a device which is neither Eger's device nor an obvious extension of it.

20. Another argument for claim 4: one skilled in the arts understands that numerous devices utilize LEDs so the crux of the matter is what those LEDs signify and how they are used. In this matter there is little common ground between the two devices. The message communicated by the LEDs is different in the two devices. In the Eger device a lit LED in all embodiments specifies either: "see me" or "I am a target". The present device signals a state change interpretable by the athlete within the context of the athletic environment, typically this is equivalent to a command, such as "run to the right" or "throw to first". Furthermore, the modes of illumination are different. Eger illuminates one LED at a time (in various sequences) whereas in the present device two sets of LEDs are illuminated in four combinations. It would not be obvious to one skilled in the arts to extend the Eger device by illuminating the entire ring of lights because doing so is contrary to the teaching of Eger – it would not uniquely specify a target lamp to be looked at or contacted. Eger discloses that the LEDs may be of different colors. However, Eger also discloses that the purpose for



these colors is to stimulate different parts of the retina (his column 6, line 15), whereas in the present device the different colors are used to indicate different states to the athlete. Eger's device employs a ring of lights, the present device employs two rings. In the former case the lights are arranged in this manner so that all may appear at once in the peripheral vision, and in the latter case, both rings are arranged around a cone, so as to provide an omnidirectional signal to the athletes.

21. The examiner rejected claims 5-10. These have been canceled.

22. The examiner rejected claim 11 under 35 USC 103 citing among other reasons that Eger's device also utilized a microprocessor that varied the device in a settable manner. One skilled in the arts understands that Eger's device (or, in fact, any other device with a CPU and a display) may be programmed to provide time and sequence variation in a display similar to that of the present device. However, the applicant respectfully submits that the amended claim 11 is not an obvious extension of Eger or these other programmable devices. Claim 11 contains a method for the introduction of state changes into athletic events (soccer, baseball, basketball, etc.) as defined in the present application. As discussed above, the extent of the interpretation and reaction envisioned by Eger is response back to the device itself, rendering the lit lamp a target (for visual sighting and/or subsequent contact). Conversely, in the present device, the athlete is to respond to the (external) athletic environment (balls, the field, goals, other players, etc.) and not the signaling device. Neither the intended response nor the signal to which the athlete responds is the same in the two devices

and it would not be obvious to one skilled in the arts to extend Eger's device in this manner.

23. Another argument against the rejection of claim 11 is that it refers to "athletes" (plural) whereas Eger speaks only of "the subject" (singular, see for instance his column 5). This is not merely a stylistic difference but correctly reflects the optical constraints imposed by Eger's device which restrict its usage to a single person at a time, whereas multiple athletes may simultaneously utilize the present device. For instance, in the baseball context when the signal is "throw to first" that signal is displayed not just to the pitcher but to all players on the field. It is not obvious to one skilled in the arts how to construct a device with optical properties consistent with the teaching of Eger that can be viewed from arbitrary angles by multiple athletes simultaneously.

24. The examiner rejected claims 12-21. These have been canceled.

25. The examiner objected to the introduction in the first amendment of Figures 3a, 3b, 4a, 4b, 5, all discussion of these, and all claims resulting from them. All of this material has been removed in the amended specification (numerous locations beginning **page 11 line 17** and extending through **page 20 line 19**, also in **Claims page 57** and **Amended drawings page 63**).

26. The examiner objected to the use of the phrase "integer variable that would transition between four allowed states", **page 10 line 13**. The four states were not new material (being mentioned in numerous other locations, especially **Table 1 page 16 line 12**),

however both “integer variable” and “four allowed states” have been removed. The amended sentence **page 31 line 13** has been rewritten slightly to remove one redundant use of the word “state”, since binary variables are either On or Off and “state” adds nothing further to the description. This in no way alters the meaning of the sentence. Additionally the words “mechanical, optical, and pseudorandom” are removed since they are not now used elsewhere in the application.

27. The examiner objected as new material to the definition of device state etc. **at page 13 line 19**. This paragraph has been removed.

28. The examiner objected to the use of the term “configuration devices”. This term has been removed. See, for instance, **page 14 line 9**.

29. The examiner objected to “the controller uses the value of the device state to drive the display”, **page 14 line 10**. The sentence has been restored to its original form, after corrections for different numbering in the figures **page 34 line 2**.

30. The examiner objected to the mean period and other calculations **at page 15 line 17**, these have been removed.

31. The accidental omission of the word “one” on **page 36 line 2** has been corrected.

Several phrases from the malformed claim 1 of the initial application have been retained by insertion in the body of the amended application in this same paragraph.

**Page 36 lines 6-7** was from **(1.k) page 38 line 19** and **(1.l, 1.m, 1.n) page 39 lines 1-7**. **Page 36 lines 13-15** was from **(1.r) page 40 line 1**. **Page 36 lines 16-17** was from **(1.s) page 40 line 7**. This material was present in the initial application and does not

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form the basis for any of the amended or new claims. The applicant does not know if moving phrases around in this manner does or does not constitute “new” matter as the meaning of this term in the context of patent applications seems to diverge somewhat from the colloquial meaning. If moving these phrases from the initial claims to this paragraph would be rejected as the introduction of “new matter” the applicant requests that the corresponding paragraph from the initial application be used instead. In that case the original paragraph should still be amended by the insertion of the word “one” as shown on **page 36 line 2**.

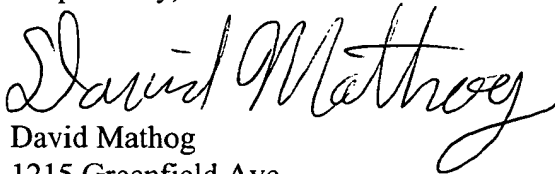
32. The examiner objected that “no statement saying that no new material was presented was provided in the previous amendment”. No material has been added to the amended application that was not present in the initial application.

33. The applicant submits that the issues noted by the examiner in the previous Office Action have been resolved. As presented above, the “new matter” cited under section 132 has been removed, as have the corresponding claims (in whole or in part) which as a consequence were not in compliance with section 112. The retained amended claims 2, 3, 4, and 11, have been demonstrated to satisfy the conditions of section 103: The scope and contents of the present application were not encompassed by Eger; There are major differences between Eger’s devices and methods and those of the present application; One skilled in the arts would not obviously extend the teaching of Eger to encompass the present application as doing so would either introduce elements contrary to the teaching of Eger or would introduce concepts

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outside of the scope of his invention. Accordingly, the applicant submits this amended application in the belief that it is now in full condition for acceptance.

Respectfully,

A handwritten signature in cursive script that reads "David Mathog". The signature is written in black ink and is positioned above the printed name and address.

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